Central Region
Emergency Medical Services and Trauma Care System Plan
July 2005 - June 2007

Submitted by
Central Region EMS and Trauma Care Council
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Section I. - Executive Summary:

II. AUTHORITY – REGIONAL SYSTEM COORDINATION

The Central Region has a mature and robust EMS prehospital system dating back to 1969. Trauma system elements mandated by WAC 246-976-960 and RCW 70.168 have been incorporated into the existing system. The main focus of the Central Region EMS and Trauma Care Council is to provide a forum for open discussion of issues faced by the EMS system and make recommendations for system enhancements when appropriate. Continued coordination and planning between the Central Region Trauma Council and other EMS stakeholders is needed.

Goal: Central Region EMS and Trauma Care Council remains involved in regional EMS coordination and planning efforts.

III. Injury prevention & public Information/education

Falls, motor vehicle crashes (MVA) and poisonings are the three leading causes of injuries and fatalities in the Region. Fall prevention in the elderly is currently supported through King County EMS Division grants and fall prevention devices inventory from previous support of the Regional Council. In FY 2005, the Regional Council supported Fire Stoppers an adolescent arson prevention program and Anna's Ride Home, a DUI prevention program. Public Health of Seattle and King County currently supports drug abuse programs. Funding for effective injury prevention programs is needed.

Goal*:* Effective injury prevention programs in King County receive financial support.

IV. Prehospital

A. Communication

The Central Region has a well developed E-911 system that provides police, fire, and medical call receiving and dispatching for the region. All public PSAPs in the region have fully implemented Phase 2 cellular service technology. All call receivers and dispatchers in the region are trained in Emergency Medical Dispatch (EMD). Pre-arrival instructions include dispatch bystander CPR, AED use, choking, childbirth, and airway management for the unconscious patient. Call times including the time dispatch answers the call, time unit dispatched to scene, and time unit arrives at scene. Current needs include online EMD guidelines, improved documentation for Q/I, cost effective EMD continuing education, and improved accuracy of cellular caller/ISP voiceover location.

Goal 1: Participation in King County EMD Continuing Education will increase

Goal 2: Call takers/dispatchers have ready access to King County CBD Guidelines

Goal 3: Newly hired call takers have tools to identify patient's health issue and dispatch appropriate level of response.

Goal 4: Effective E-911 service is available to all callers regardless of telecommunication mode being used.

B. Medical Direction of Prehospital Providers

The King County MPD is extensively involved in EMS quality assurance activities, development of EMT training programs protocols and PCPs and works closely with the medical directors assigned to the six ALS agencies in the Region

Goal: Coordination between MPD, medical directors, hospital medical control, Regional Council and other EMS stakeholders continues

C. Prehospital EMS and Trauma Services

There are over 3600 EMTs and 210 paramedics in the Central Region. Services are augmented by 329 full-time and 51 part-time EMTs/RNs based at four private ambulance agencies. Eighty Eighty-one percent of EMS personnel are paid.

The public prehospital EMS system is supported through a combination of EMS dedicated property tax levy funds, city/county allocations, and fire district funds. EMS levy revenues totaled $55,703,623.00 2004[1]. The current levy expires December 30, 2007.

EMT-B training is available through King County EMS. CBT training is currently web-based. All paramedics in the Central Region are trained and certified by the University of Washington consistent with the provisions of RCW 18.71. Current needs include two additional SEIs

Goal: Senior instructors are available to accommodate training and requests.

D. Verified Aid and Ambulance Services:

Demand for ALS service continues to increase while the costs of providing existing services are increasing at a rate greater than the local CPI. Formulation of the 2008 EMS Levy cost is underway and must balance the increasing cost of services with the need to keep levy tax requests within the limits of the taxpayer's budget. No changes in verified trauma services are proposed for the 2006-2007 biennium.

Goal: King County population has access to paramedic service when appropriate.

E. Patient Care Procedures (PCPs), County Operating Procedures (COPs) and multi-county/inter-regional operations

Central Region PCPs have been revised to define the circumstances under which private ambulance providers may respond to scene and transport patients code red. Published reports indicate that BLS patient care is not compromised by slower secondary response and transport, however fire department personnel have complained of longer scene times while waiting for transport to arrive. The Central Region Prehospital Subcommittee and King County EMS Division will collect and review data to determine if this PCP affects patient outcomes or fire department response.

Goal: Effect of BLS Code Red Response and Transport PCP is known.

V. DESIGNATED TRAUMA CARE SERVICES

Central Region hospital resources provide health care to 1.78 million residents of King County as well as a large number of workers and visitors from neighboring counties and states. Central Region designated trauma centers treated 6741 serious trauma patients in 2003 (excluding isolated hip fractures). Lack of public funding for healthcare is the single most significant factor in granting access to healthcare. ED closures during inclement weather and lack of affordable (MMI) Medical Malpractice Insurance continue to plague the Region.

Goal 1: Patients have access to appropriate healthcare.

Goal 2: Prehospital personnel will be able to transport patients to closest appropriate facility regardless of weather.

Goal 3: Washington physicians will have access to affordable MMI.

VI. EMS AND TRAUMA SYSTEM EVALUATION

A. Information Management

EMS data including run times are made available to the Central Region Trauma Registry from data managed by the King County EMS Division. Hospital and prehospital providers are largely compliant regarding timely submission of data to their respective data collection agencies.

Needs include improved reporting of missing data and hospital patient tracking/outcome software to help close the gap in hospital Q/I programs.

Goal 1: Central Region has access to complete correct patient information for Q/I purposes.

Goal 2: Trauma Centers have access to patient tracking/outcome software

B. Quality Assurance

[1] Division of Emergency Medical Services 2004 Annual Report to King County Council page 53

EMS agencies, dispatch centers and hospitals conduct in house Q/I reviews. King County EMS Division, MPD and Central Region Quality Improvement Subcommittee conduct overall system evaluation as well as sentinel case review. The current need is Q/A Subcommittee access to prehospital data to evaluate prehospital effect on patient outcome.

Goal: Influence of prehospital care on patient outcome is known.

VII. ALL HAZARDS PREPAREDNESS

A. Prehospital Preparedness

Local fire departments have developed working relationships with businesses, law enforcement and neighboring fire departments. Equipment and training needs are to be established through surveys.

Goal: Prehospital personnel will possess skills and training necessary to properly triage and treat trauma and burn patients.

B. Hospital Preparedness

Public Health and WSHA have taken the lead in assisting hospitals in the Region with disaster readiness planning, exercises, and drills. All hospitals are currently participating in planning activities. Current needs include development and implementation of a statewide communications plan, training, drills, supplies and equipment for treatment, expanded lab and isolation capacity, patient tracking system, and credentialing system. The ESF-8 and Region 6 Hospital Disaster Plan need to be updated.

***Goal 1*:** Revised Region 6 Hospital Disaster Plan is a functional plan compatible with and attached to, ESF-8

Goal 2: Hospitals have access to training, equipment and supplies to support their role in disaster response

Section II. - Authority – Regional System Coordination

A. Regional Council Coordination

1. System Status (Region):

- Regional Council's coordination role in the Regional EMS and Trauma Care System.
  The Central Region is fortunate to have a mature and robust EMS prehospital system that dates back to 1969 when Seattle Fire Department began providing Medic One service to the City of Seattle. In 1973, King County Code expanded Medic One services countywide. When the Washington EMS and Trauma Care System Act of 1990 (WAC 246-976-960 and RCW 70.168) established the trauma regions, the Central Region EMS & Trauma Care Council worked with local hospitals and EMS agencies to incorporate the elements mandated by the ACT into the existing EMS and trauma care system. The Council's current role includes the following activities:

  - ✓ Provide forums for open discussion of the issues faced by emergency medical providers
  - ✓ Review EMS and trauma system data and make recommendations for system improvements
  - ✓ Identify regional provider training needs
  - ✓ Identify injury prevention and education needs
  - ✓ Authorize expenditure of Council funds to support training, injury prevention, and quality assurance activities
  - ✓ Update the Central Region EMS and Trauma Care Plan
  - ✓ Review and make recommendations to the State Department of Health on the number and level of trauma centers, rehabilitation centers and prehospital provider agencies needed to meet regional patient care needs
  - ✓ Advise the State Department of Health on the development of trauma care system policies and procedures

The Council involves many public and private agencies in the planning and evaluation of trauma specific emergency medical care including:

- Public Health – Seattle & King County, EMS Division
- All designated and non-designated facilities
- All ALS agencies and medical directors
- Dispatch
- King County Emergency Office of Emergency Management
- Fire departments
- Private ambulance providers

- Regional Council Vision or Mission statements
  The Central Region EMS and Trauma Care Council's mission is to provide leadership and coordination within the EMS system to ensure provision of high quality emergency medical and trauma care services to the community.

2. Need Statement:

Continued coordination and planning between the Central Region Trauma Council and other EMS stakeholders is needed.

1. Goals:

Goal: Central Region EMS and Trauma Care Council remains involved in regional EMS coordination and planning efforts.

Objective: Monitor EMS activities monthly.

Strategy: Attend EMS Advisory meetings, Fire Chief Zone meetings. Meet with EMS Division section heads and field workers to keep informed of plans and actions.

EMS System Cost: none
Regional Council Cost: Portion of Administrators salary and benefits
Barrier: Many entities and activities are exclusive of the Regional Council

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Section III. - Injury Prevention & Public Information/Education

A. IPPE

1. System Status (Region):

- Regional injury problems/high-risk groups using data from the DOH injury database for fatal injuries and non-fatal hospitalizations

Table A. Regional Injury Data

Non fatal injuries 1998 – 2002 Rate per 100,000		Fatal injuries 1998 – 2002 Rate per 100,000	
Falls	285.9	Poisoning	8.4
MVA Occupant	41.0	Falls	5.7
Poisoning	26.3	MVA Occupant	5.2

Among non-fatal hospitalizations, fall related injuries were the highest among persons age 75 and over. Motor vehicle incidents were highest among 15-24 year olds and those over age 75. Poisonings, mostly drug overdoses, were highest among the elderly followed by persons age 40-64. Among fatalities the top three mechanisms of injury leading to death were falls among persons 75 and older, motor vehicle occupant among 18 and 19 year olds and poisonings among 35-54 year olds.

Falls

The Central Region Trauma Council supported the Fall Factors Program from 1998 through FY 2002. In FY 2003, the Council decided not to fund Fall Factors partly due to a large inventory of fall prevention devices located in several fire stations throughout the region. Studies of the effectiveness of Fall Factors, based on follow-up cards, indicate that placement of fall prevention devices do prevent falls in the home; however, 20% of the data was missing due to lack of follow up (persons did not return follow–up card). A large scale 3-year study randomized study is planned and may help provide a definitive answer regarding the effectiveness of the Fall Factors Program.

Motor Vehicle Collisions

In 2003, 179 motor vehicle traffic fatalities were investigated by the Medical Examiner's Office, 37% of fatalities occurred outside of King County. Of those fatalities whose blood alcohol levels were determined by the Medical Examiner, 39% of drivers tested positive for alcohol; 50% of passengers tested positive for alcohol, and 68% of unrestrained or unknown restrained drivers tested positive for alcohol[2].

[2] King County Medical Examiner's Office – 2003 Annual Report – Manner: Traffic pg 65,66

Poisonings

Most poisonings are due to accidental or intentional drug overdose. Public Health – Seattle & King County operates a drug and alcohol abuse prevention program called AODP.

- Current injury prevention resources and efforts and collaborative efforts within the regional system.

  Central Region public and private businesses offer a wide range of injury prevention and education activities. These programs range in complexity from the epidemiological based surveillance and prevention efforts of Harborview Injury Prevention and Research Center to the public education efforts, child seat safety checks, and helmet distribution fairs of local hospitals and fire departments.

  The Central Region EMS & Trauma Care Council contracts with agencies such as Washington Physicians for Social Responsibility, Anna Armstrong-White Foundation, and King County Fire & Life Safety Association (KCFLSA) in support of IPPE programs. KCFLSA is a non-profit organization comprised of fire and life safety educators that are dedicated to educate the public on fire and life safety issues. In this manner, the Council collaborates with the largest IPPE organization in the Region. Listed below are the collaborators:

American Red Cross	Auburn Fire Department	Bellevue Fire Department
Boeing Fire Department	Bothell Fire & EMS	Burien Fire Department
C.P.S.C.	Camano Is. Fire & Rescue	Central Kitsap Fire
Des Moines PD	Eastside Fire & Rescue	Enumclaw Fire Department
Federal Way Fire	Graham Fire & Rescue	Highline Hospital
Kent Fire	Kent PD	King County EMS
King County Fire Dist. #11	King County Fire Dist. #13	King County Fire Dist. #17
King County Fire Dist. #20	King County Fire Dist. #25	King County Fire Dist. #26
King County Fire Dist. #27	King County Fire Dist. #40	King County Fire Dist. #44
King County Fire Dist. #45	King County Fire Dist. #46	King County Fire Dist #51
King County FMO	King County Medic One	Kirkland Fire Department
Kitsap Fire District #7	Maple Valley Fire Dept.	Medic One Foundation
Mercer Island Fire Dept	Northshore Fire Dept.	NW Burn Foundation
Pacific Fire Department	Port of Seattle	Portland Fire Bureau
Redmond Fire Dept	Renton Fire Department	Rural Metro
SAFECO	Safety Restraint Coalition	SeaTac City Fire Dept
Seattle Fire Department	Shoreline Fire Department	South County Child Passenger Safety Team
South Puget Regional Handcrew	Spokane Fire Department	State Farm Insurance
Surrey Fire Department	Tacoma Fire Department	Tukwila Fire Department
WA State Patrol	WA State DNR	Woodinville Fire & Life Sfty

- Regional Council's role in IPPE
  The Regional Council annually makes available $10,000 +to injury prevention programs. IPPE grant proposals are solicited and reviewed by ad hoc committee. The IPPE ad hoc Committee forwards grant recommendations to the Regional Council for vote. IPPE ad hoc Committee recommendations are based on community need, how much of the fund directly supports the activity vs. administrative overhead, effectiveness of the program, and uniqueness of the program. In addition, applicants are required to provide the following information on their grant application:
  - Identify need and rational for program using local injury data
  - Define target population
  - Define goals based on analysis of need
  - Identify measurable objectives, timeline, and budget
  - Describe programs ability to integrate IPPE activities into the EMS & trauma system
  - Involve prehospital care providers and/or partner with community agencies to avoid duplication of efforts.
  - Describe qualifications, commitment, alternate sources of funding and/or matching funds

- Other system status information
  The Central Region EMS & Trauma Care Council currently helps support a full-time injury prevention coordinator through the King County EMS Division. The Central Region currently supports the following injury prevention programs:

  ✓ <u>Fire Prevention - Firestoppers</u>:
  Firestoppers is a regional youth fire setting intervention program that uses early identification, evaluation, education and mental health treatment in an effort to decrease fire setting. Partners include KCFLSA, Fred Meyer Foundation, Washington Insurance Council, Arson Alarm Foundation, King County Fire Marshal, King County Youth and Family Services, and FEMA. Grant funds are used to provide qualified mental health treatment for children determined to be at risk to starting fires.

  ✓ <u>DUI - Anna's Ride Home – Anna Armstrong-White Foundation</u>
  Anna's Ride Home is a DUI intervention and education program targeting patrons of local drinking establishments. The program provides vouchers for a free taxi ride home to patrons who are intoxicated. The cost of the taxi vouchers are shared between the Foundation and the participating establishment. Currently program partners include Lucky 7 Tavern, R Place, Fados, Cowgirls, and Rockport. The Foundation evaluates the program by comparing local DUI/restaurant arrests, number of vouchers used, numbers of sponsors, funds raised, and number of new establishments that are actively involved in the program.

King County EMS currently sponsors these injury prevention programs:

- ✓ Safe Kids, Smart Kids
  Fires burns and poisonings have the second and third highest rate (respectively) of non-fatal injury hospitalizations for children four years old and under. King County EMS and Seattle Fire Department, with financial assistance from the Regional Council, developed a program called "Safe Kids Smart Kids" an injury prevention program for preschoolers - addressing burns/scalds, poisonings, helmet safety, and pedestrian safety. The program is offered to members of the King County Fire & Life Safety Association for use by preschool teachers as well as parents of preschoolers. Currently the program is offered through Seattle Fire, King County Fire District #40, and Federal Way Fire.

- ✓ Child Passenger Safety Program
  A sixty-minute child car seat class that is offered at Public Health sites throughout King County. This class educates MSS/WIC parents of young children on the proper method to install their own car seat. Should a parent not have the appropriate car seat, a free car seat is given to them whenever possible. Classes are offered in English, Spanish, and Russian.

- ✓ Randomized Fall Program Pilot Study
  Few studies have investigated the effectiveness of Emergency Medical Services (EMS) based fall prevention interventions. This pilot study was conducted to assess the feasibility of conducting a large scale randomized trial of multi-faceted fall prevention tactics and evaluate the degree and duration of benefit that would be expected. Sixteen persons were assigned to the intervention group, sixteen persons were assigned to the control group. Overall, intervention group participants experienced a 36% decrease fall accidents as compared to control participants. However, the decrease in fall risk that was observed failed to reach statistical significance due to the limited number of participants. In Feb 2005, King County EMS will apply to NIH for a multi-year grant to expand this program to include 800 participants.

- ✓ Think Again Program
  "Think Again" is an educational program that discusses the consequences of reckless driving, lack of seatbelt use, and use of alcohol and/or drugs. This program has been presented to over 39,000 middle and high school students in King County. King County currently administers the program which is funded by Washington Traffic Safety Commission. In fiscal year 2004-2005 Eastside Fire, KC #40, Kent Fire, and Kirkland Fire have been funded to reach 4,018 students with a budget of $8,067. Other fire departments that are presenting the program, but not funded by WTSC are: Federal Way Fire, Auburn Fire, Redmond Fire, Woodinville Fire, Shoreline Fire, and Bothell Fire.

2. Need Statement:

- IPPE needs within the regional system.
  There is a need to first determine and then adequately fund effective injury prevention programs and techniques. Ideally the funded programs would match the areas of greatest need such as falls in the elderly, motor vehicle collisions involving the very young driver and the very old driver, or programs that prevent drug overdose and poisonings from prescription drug interactions.

- Regional IPPE program needs that the Regional Council financially supports**.**
  The Regional Council helps fund Anna's Ride Home. Provision of taxi vouchers to drunk patrons of local bars does decrease the chance that the drunk patron, in transit home by taxi, will be involved in a MVC on the way home from the bar. The Regional Council IPPE adhoc grant application review committee does screen grant applications for efficacy and endeavors to award grants to programs that are proven effective.

3. Goals.

Goal: Effective local injury prevention programs in King County receive financial support.

Objective 1: Local drinking establishments wishing to participate in Anna's Ride Home will have access to educational/promotional materials and taxi vouchers by September 30, 2005.

Strategy: Contract with Anna Armstrong-White Foundation to provide educational materials and taxi vouchers to local drinking establishments.

EMS System Cost: not currently funded

Regional Council Cost: $4,800 minimum in 2006.

Objective 2: Determine additional injury prevention and public education programs to support for FY 2006 and FY 2007.

Strategy 1: Announce availability of grant funds

Strategy 2: Select ad hoc committee to review grant applications and make recommendations to the Regional Council

Strategy 3: Award grants to qualifying applicants. Applicants program must be unique to the Region, have low overhead costs, and have a method in place to prove effectiveness of program over time.

EMS System Cost: not applicable

Regional Council Cost: Approximately $20,000 for the biennium

Barrier: It is difficult to find and/or develop effective IPPE programs. It is difficult to change behavior. We can't make parents be parents. We can't stop parents from buying cars for their teenagers. We can't keep kids from drinking and driving or being stupid in the car. We can't keep people from running red lights. We can't make old folks exercise and we can't keep people from shooting up.

Section IV. - Prehospital
A. Communication

1. System Status (Region):

- Number of dispatchers, EMD training programs used in the Region, and the number of dispatchers currently trained in Emergency Medical Dispatch.

Table B. Dispatchers with EMD Training by County

County Name	Total # of Dispatchers in the County	EMD Training Program/s used in the County (if none indicate so)	# Dispatchers within the county who have completed EMD training from a course in column #3
King			
- Eastside Communications Center	65	King County Criteria Based Dispatch (CBD)	65
-Valley Communications Center	99	King County CBD	99
-Enumclaw Dispatch	6	King County CBD	6
-Port of Seattle Dispatch	14	King County CBD	14
-Seattle Fire	12-14	Seattle Fire EMD Program	12-14
Region Totals	198	Total not required	198

- Current relationship between existing regional communication resources and the following:

  Effective 911 / E-911 access including by wireless technology
  The Central Region has a well developed E-911 system that provides police, fire and medical call receiving and dispatching for the region. Approximately 1.8 million citizens are served by this system. Fire and medical call receiving is currently managed by five communications centers in the region. Eastside Communications, Valley Communications, Port of Seattle Police, and Enumclaw Police serve King County. Seattle Fire Alarm Center serves the City of Seattle. Private ambulance companies provide their own dispatch services.

Emergency calls received by a private ambulance dispatch center which require EMS response are to be referred to the appropriate public PSAP (Public Safety Answering Point). Approximately 153,000 calls for emergency medical services were answered by communications centers in Seattle and King County in 2003.

Fifty-percent of E-911 callers now originate from cell phones. All public PSAPs in the region have fully implemented Phase 2 cellular service technology. Phase 2 technology locates cell phone callers by GPS latitude and longitude and provides a callback number and location of the cellular service tower closest to the caller.

Dispatch of EMS by trained emergency medical dispatchers

All call receivers and dispatchers in the region are trained in Emergency Medical Dispatch (EMD). King County dispatchers are trained in Criteria Based Dispatch (CBD). The program is administered by King County EMS Division, Public Health – Seattle and King County. CBD training consists of a 40 hour Basic CBD Training Course including eight hours of anatomy and physiology. The EMD Continuing Education (CE) consists of eight hours of training annually. In 2005, four hours of CE will be web-based interactive training, and four hours will be traditional classroom training. King County EMS also offers an EMD Instructor Development Course. The EMD activities in Seattle and King County are supported by funding from the EMS Levy.

Seattle Fire Department (SFD) dispatchers are trained in a Seattle Fire Department EMD Program administered by SFD.

Bystander care with trained emergency medical dispatcher assistance

The Criteria Based Dispatch Program includes dispatch pre-arrival instructions for twenty-five chief complaint categories, including nineteen medical emergency categories and five trauma categories. Trauma categories include Assault, Burns, Drowning, Falls, and Motor Vehicle Accidents. Pre-arrival instructions are encouraged in all cases where appropriate and when the call receivers have time. Emergency medical telephone instructions are also given in life threatening events where the bystander needs assistance in CPR, AED use, choking, childbirth, or airway management for the unconscious patient.

Ability within the region to track average time to contact a live person at 911 centers

The Central Region is able to track several time intervals related to communications. The E-911 office tracks the time from when the call first hits the PSAP switch to the time the call is answered by the dispatcher. Dispatch center CAD systems also record the time the initial call was answered by dispatch. In order to receive funding from the E-911 office, centers must meet the standard of answering 90% of all calls to 911 within 10 seconds. Currently all dispatch centers are meeting the standard.

Ability within the region to track the time from initial 911 call to the dispatch of the responding EMS agency

Dispatch center CAD systems record the time the unit was notified by dispatch, the time the unit responded, and the time the EMS unit arrived at the scene. The interval between the time unit was notified and the time the unit arrived at the scene is the commonly accepted 'unit response time' for the Central Region. All of these times, with the exception of PSAP call answering time, are recorded on the King County Medical Incident Report Form (MIRF) and are maintained in the King County MIRF database.

Ability of EMS agencies to communicate with dispatch, between units and across the region, and with receiving hospitals for on-line medical direction

EMS units communicate with dispatch centers and with each other using 800 MHz radios. ALS units receive medical direction from designated medical control hospitals. ALS units communicate with the medical control physicians primarily by cellular phone and secondarily by 800 MHz radio.

Overload of dispatch centers

Fifty-percent of callers now use cell phones and voice over internet. These calls are locatable only by GPS longitude and latitude. The location of the caller shows up as a dot on an onscreen map. Call takers must second guess the cellular providers capacity to accurately position the call and attempt to direct the responding unit to the scene. This process is time consuming and can cause additional stress on PSAPs experiencing low staffing levels due to illness and budget cuts.

Estimated cost of state of the art communication technology equipment for EMS communications within the region

All public PSAPs in the region have fully implemented Phase 2 cellular service technology. Phase 2 technology locates cell phone callers by GPS latitude and longitude, provides a callback number, and the location of the cellular service tower closest to the caller. The cost of upgrading EMS systems as specified in the needs statement below is not known at this time.

2. Need Statement:

- System needs within the region

  Presently there are seven cellular service providers in King County. Each provider has different GPS capability to accurately locate latitude/longitude of the caller. PSAPs need a means to determine which providers have reliable location capability and which providers do not. For example: if provider A's GPS can only locate a caller within two miles of the call site, then the call taker knows to find an alternate (quicker) means of finding the callers exact location when the caller is using provider A's service. There is a need to improve the accuracy of location provided by cellular and internet voice over internet providers.

Other needs include:

- ✓ Improve the technology for dispatchers accessing EMD guidelines during call taking
- ✓ Improve documentation of call taking activities for quality improvement purposes
- ✓ Find cost-effective methods for providing EMD continuing education to mitigate the cost of wages

3. Goals:

Goal 1: Participation in King County EMD Continuing Education will increase

Objective: 100% continuing education participation by King County dispatchers by March 30, 2006.

Strategy 1: Fund CE training with EMS Levy funds.
Strategy 2: Continue to offer web-based interactive EMD CE training.
Strategy 3: Encourage participation in training while dispatchers are on duty, whenever practical.

Projected costs: $60,000 funded by EMS Levy
Regional Council costs: There are no Regional Council costs associated with dispatch communications
Barriers: Competing training mandates and limited hours for additional overtime opportunities.

Goal 2: Call takers/dispatchers have ready access to King County CBD Guidelines

Objective: CBD guidelines will be web-based by July 31, 2007

Strategy 1: Contract with a private vendor to develop web-based CBD Guidelines.
Strategy 2: Develop a functional stand-alone version of web-based CBD Guidelines.
Strategy 3: Develop a CAD interfaced version of the web-based CBD Guidelines.

EMS System costs: Approximately $450,000 funded by EMS Levy over a four year period.
Regional Council costs: There are no Regional Council costs associated with dispatch communications.
Barriers: Resistance to change by communications personnel.

Goal 3: Newly hired call takers have tools to identify patient's health issue and dispatch appropriate level of response.

Objective: Develop Basic EMD Course that includes problem based learning by September 30, 2005.

Strategy: Develop interactive training tools that include student demonstrations of applied learning in the classroom.

Projected costs: $5,000 funded by EMS Levy
Regional Council cost: There are no Regional Council costs associated with dispatch communications.

Goal 4: Effective E-911 service is available to all callers regardless of telecommunication mode being used.

Objective 1: On an annual basis report on project to develop database to link GPS location of cellular and voice over internet callers to the caller's physical address.

Strategy 1: Upgrade address database.
Strategy 2: Transfer GPS location to address.

Objective 2: On an annual basis report on project to upgrade all database and networks.

Strategy: Write standards for database network system and upgrade system to meet standards.

Objective 3: On an annual basis report on project to provide PSAPs with a means of identifying cellular service provider's capability to accurately locate a caller.

Strategy: Test each cellular service provider monthly and provide PSAPs with report of accuracy of longitudinal/latitudinal locations.

EMS System Cost: Costs are not known at this time
Regional Council costs: There are no Regional Council costs associated with dispatch communications.
Barriers: Cellular and internet service providers are responsible for increasing their ability to accurately locate callers.

B. Medical Direction of Prehospital Providers

1. System Status (Region):

- Current status of MPD leadership within the region
  King County (Central Region) is fortunate to have only one MPD. This leadership is well defined and centralized. The MPD works closely with five Medical Directors delegated to run the six paramedic programs (Seattle Medical Director is delegated to oversee Vashon Island's paramedic program). Quarterly Medical Directors meetings are held to discuss and review all aspects of the EMS system.

  Impromptu meetings are held with other organizations within the EMS Division including, Dispatch Training, Planning and Evaluation, CPR Training, Injury Prevention, EMT/CBT Training, and Regional Council. The MPD attends Fire Chief Zone meetings in south and east King County and the King County Advisory Committee meetings.

- Current level of participation of MPDs at the county and regional system levels
  The MPD is a full time contract employee of the EMS Division of Public Health - Seattle and King County. The MPD is extensively involved in EMS quality assurance activities and development of EMT training programs aimed at improving patient outcome

- Current involvement of the MPDs in PCP and COP development
  The MPD works in conjunction with the Regional Council to develop and/or revise PCPs when indicated by system review.

2. Need Statement:

- System needs within the region for Medical Direction
  There is a need for continued coordination between MPD, paramedic medical directors, hospital medical control, Regional Council and other EMS stakeholders.

3. Goals:

Goal: Coordination between MPD, medical directors, hospital medical control, Regional Council and other EMS stakeholders continues

C. Prehospital EMS and Trauma Services

1. System Status (Region):

- Comparison of the number and level of prehospital providers in the region, by county, from the 2004-2005 Plan *and* the current numbers provided by DOH.

Table C. Prehospital Providers by County and Level

	Current DOH				**FY04-05 Plan**			
County	FR	EMT	EMT-I	PM	FR	EMT	EMT-I	PM
King	68	3637	0	35	68	3637	0	210*
Regional Totals	**68**	**3637**	**0**	**35**	**68**	**3637**	**0**	**210***

*Note: paramedics certified by U of W

- System roles of the additional public safety personnel and other groups that augment the EMS and Trauma System.

  Fire department based BLS and publicly funded ALS services are augmented by 329 full-time and 51 part-time EMTs/RNs based at four private ambulance agencies. Private ambulance services may contract directly with fire departments to provide BLS transport, or in the case of Airlift Northwest, provide aero-medical ALS transport. All private EMS agencies make units and personnel available during multiple casualty incidents upon request. Private ambulance agencies include:

  - Airlift Northwest
  - American Medical Response
  - Rural Metro Ambulance
  - Tri-Med Ambulance

  In addition to private BLS and ALS agencies, a number of search and rescue services are available. Search and rescue operations are coordinated through the King County Sheriff's office. Member agencies of King County Search and Rescue Association (KCSARA) include:

  - 4 x 4 Rescue Council
  - Rescue One (KCFD #28)
  - Seattle Mountain Rescue Council
  - Ski Patrol Rescue Team
  - Explorer Search and Rescue
  - Northwest Bloodhounds
  - Pacific Northwest Trackers
  - German Shepherd Search Dogs
  - Civil Air Patrol
  - King County Amateur Radio

  Other individuals and organizations that augment the EMS and Trauma system include citizens trained in AED and CPR, the Puget Sound Blood Center and the Washington Poison Center. Government resources are shown in the table below.

Agency	Air Units	Marine Units
Seattle Police		X
Seattle Fire Department		X
Northshore Fire Department		X
King County Sheriff (search only)	X	X
Navy (Whidbey Island Naval Air Station)	X	
National Guard	X	
Army MAST(Military Assistance to Safety and Traffic)	X	
Coast Guard	X	X

- Other system status information
  Demographics:
  The Central Region EMS prehospital system is a coordinated partnership between King County, cities, fire districts, and private businesses that provides service to more than 1.78 million people over a 2,134 square mile area. Central Region uses a two-tiered response system to ensure that E911 calls receive medical care by the most appropriate care provider.

  Financial Support:
  The Central Region EMS system is supported through a combination of EMS dedicated property tax levy funds, city/county allocations, and fire district funds. The total EMS levy revenue collected in 2004 was $55,703,623.00[3]. The EMS levy provides full financial support for ALS services. BLS services receive approximately 10% of their funding through the EMS levy. The remaining 90% of BLS operating costs is funded through local tax dollars. The current levy expires December 30, 2007.

  Training:
  EMT-B training is available through North Seattle Community College and American Medical Response. EMT-B training is also available twice yearly through King County EMS Division.

[3] Division of Emergency Medical Services, 2004 Annual Report to the King County Council, Page 53

Web-based CBT/OTEP has been offered to King County EMTs since 2001. Online CBT curricula are in an interactive format including realistic video case studies and complete online evaluations. Test results are automatically stored in an electronic database for record keeping. Each module has a practical skills evaluation conducted by an onsite instructor to ensure clinic skills meet County and State standards. 36,000 courses have been completed as of 12/31/2004, resulting in a reduction of CBT training costs of approximately $115/student per year.

Paramedic:
All paramedics in the Central Region are trained and certified by the University of Washington consistent with RCW 18.71. Based at Harborview Medical Center, the paramedic-training program consists of approximately 10 months of instruction including intensive clinical and field internship.

Paramedics recertify every two years. Requirements for recertification include 50 hours of CME (continuing medical education) every year. CME programs must meet the training requirements of the University of Washington/Harborview Medical Center and include emerging patient care issues and topics selected by the medical director of the paramedic training program. All prehospital trauma training is at a maintenance level.

2. Need Statement:

- System needs within the region relating to the prehospital provider workforce. Include the following:

Recruitment and retention of EMS provider
Eighty-one percent of Central Region EMS personnel are paid. The few agencies that do rely on volunteers experience difficulty in retention of volunteer staff.

Initial provider training and continuing education (OTEP/CBT)
Basic trauma training needs to be added to the curriculum available on the Online CBT program. The trauma training in recent years has focused on specific injuries. The basic trauma training will be added as a refresher course.

Instructor pool
Central Region has eight SEIs, 368 CBT state evaluators, and 60 EMT-B instructors. Two additional SEIs are needed.

Training/education aids and equipment
No training education aids and equipment are needs are expected during the 2006-2007 biennium.

Basic and state-of-the-art emergency medical care equipment
Some fire departments have a need for glucometers and oximeters.

3. Goals:

Goal 1: Senior instructors are available to accommodate training and requests in King County.

Objective: Hire two additional SEIs by 12/30/05.

Strategy 1: Identify SEI candidates from among local agencies.
Strategy 2: Find SEI classes for certification of candidates.
Strategy 3: Add certified SEIs to instructor list at KCEMS.

EMS System Cost: None
Regional Council Cost: None

Goal 2: EMTs have online access to basic trauma refresher and skills course

Objective: KCEMS Training will add basic trauma refresher and skills course to curriculum by 9/30/06.

D. Verified Aid and Ambulance Services:
1. System Status (Region):

- Current verification information provided by the Department, by county

Table D. Approved Min/Max numbers of Verified Trauma Services by Level and Type by County

County (Name)	Verified Service Type	State Approved - *Minimum number*	State Approved - *Maximum number*	Current Status (# Verified for each Service Type)
	Aid – BLS	11	15	9
	Aid –ILS	0	0	0
	Aid – ALS	1	1	0
	Amb –BLS	27	30	24
	Amb – ILS	0	0	0
	Amb - ALS	5	6	6

- Current formal Regional process for determining need and distribution of Verified Trauma Care Services within in the region. .

  ALS
  The King County EMS Master (Strategic) Plan, adopted in 1991, identified the need, distribution, and level of care necessary to assure availability of EMS services to the public. The plan identified strategies for location and staffing of ALS units in Seattle and King County. Response time and demand data were used to determine placement of ALS vehicles (geography, topography and traffic patterns are factors related to response time; population density, mean age, and mean financial status are related to demand data). The Plan was last updated in 2001 for the 2002-2007 levy period. Recommendations for the need and distribution of services in the Central Region are consistent with RCW 70.168.100 (1)(h) and WAC 246-976-960 (1)(b)(i).

  BLS
  BLS services make deployment decisions based on growth in demand for services, response times, and financial resources. By utilizing the established locations and staffing of local fire departments and private BLS agencies, the Central Region provides near optimal response times. Reference Exhibit 1 on the following page for a map of response areas.

Exhibit 1 - Central Region Trauma Response Area Map

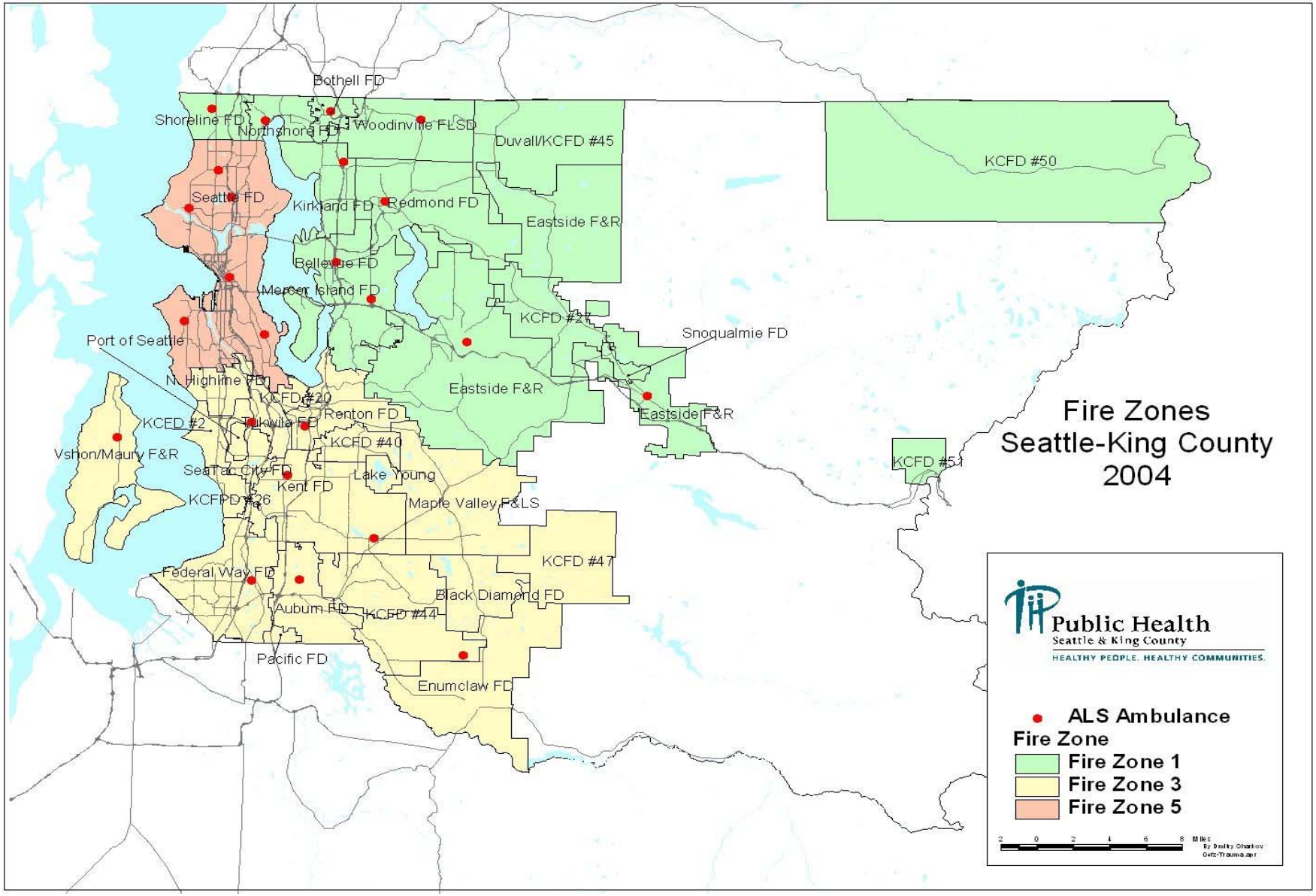

Table E. Trauma Response Areas by County

County (name)	Trauma Response Area Number	Description of Trauma Response Area's Geographic Boundaries	Type and # of Verified Services in each Response Areas * use key
King	Zone 1	North border of Seattle to Snohomish County Border, east to Kittitas County; south to Renton and Maple Valley border and south end of Lake Washington, west along east side of Lake Washington including Mercer Island.	A-2 D-11 F-3
King	Zone 3	South border of Seattle and south end of Lake Washington along north border of Renton and Maple Valley, east: along Kittitas County Border; south along Pierce County border; west along Puget Sound including Vashon Island.	A-5 D-11 F-2
King	Zone 5	City of Seattle	D-1 F-1

Key: For each level the type and number should be indicated

Aid-BLS = A Ambulance-BLS = D Aid-ALS = C
Ambulance-ALS = F Aid-ILS = B Ambulance-ILS = E

Current Service Providers by Zone

Zone 1	Zone 3	Zone 5
Shoreline FD	North Highline FD	Seattle Fire Department
Shoreline Medic One	KCFD 20	Seattle Medic One
Bothell FD	Renton FD	
Northshore FD	KCFD 2	
Woodinville FD	Tukwila FD	
Duvall FD 45	KCFD 40	
Kirkland FD	Vashon Island Fire & Rescue	
Redmond FD	Sea Tac FD	
Redmond Medic One	KCFD 26	
Eastside Fire & Rescue	Port of Seattle FD	
Bellevue FD	Kent FD	
Bellevue Medic One	Maple Valley Fire & Life Safety	
Mercer Island FD	Federal Way FD	
KCFD 27	Auburn FD	
Snoqualmie FD	KCFD 44	
Snoqualmie Pass FD 51	Black Diamond FD	
Skykomish FD 50	KCFD 47	
	Pacific FD	
	Enumclaw FD	
	King County Medic One	

2. Need Statement:

The EMS Division 2004 Annual Report to the King County Council forecasts need for a 0.5 paramedic unit in South King County in 2006. A detailed study will be completed in FY 2006 to determine if this service is needed in 2006 or 2007 and where the unit should be deployed.

Though response times in urban, suburban, rural, and wilderness areas are within limits established by WAC, some fire districts with large unincorporated areas and relatively low property tax assessments may be underserved. Skykomish (FD 50) is particularly problematic due to several factors:

- Low patient volume except during the ski season.
  - ALS skills maintenance issue
  - Monetary issue, ALS service for Skykomish was not discussed when planning for 2002-2007 levy period
- Ski related injuries usually do not require ALS service

In past years Skykomish ALS service was provided by Monroe. Since Snohomish County did not pass their EMS levy this year, Monroe is unable to provide service to Skykomish. Discussions continue regarding how to provide for ALS service in the Skykomish area.

The Medical Directors do not support the use of EMT-P units (one EMT and one paramedic) in the Region. The EMT-P unit stationed in North Bend has been converted to a standard two paramedic unit. Conversion of the EMT-P unit stationed in Woodinville is expected to take place in 2006 providing funding is available.

Demand for ALS service continues to increase. In addition, the costs of providing existing services including wages, benefits, pharmaceutical, supplies and equipment are increasing at a rate greater than the local CPI. A means of anticipating these types of cost increases needs to be addressed during planning for the next EMS levy.

- Regional recommendation for Plan changes to the number and type of Verified Trauma Care Services.
  No changes in verified trauma services are proposed for the 2006-2007 biennium.

3 Goals:

Goal 1: King County population has access to Paramedic service when needed.

Objective 1: Add .05 paramedic unit in South King County in 2006 or 2007.

Strategy 1: Complete study in FY 2006 to determine if unit is needed in 2006 or 2007 and where the unit should be deployed.
Strategy 2: Deploy unit.

Objective 2: Provide winter season ALS service in the Skykomish area in 2006 and beyond.

Strategy: Continue discussions at EMS Advisory Committee and Levy Task Force meetings to find permanent funding for seasonal ALS unit.

Objective 3: Convert the EMT-P unit stationed in Woodinville in 2006 providing funding is available.

Strategy: Continue discussions at EMS Advisory Committee on how to fund two paramedic units in Woodinville.

Objective 4: Anticipated cost increases needs to be addressed during planning for the next EMS levy

Strategy 1: Define cost components.
Strategy 2: Examine inflation history.
Strategy 3: Develop levy rate formula.
Strategy 4: Gain consensus of city government to endorse rate for next levy period.

EMS System Cost: Cost is not known at this time
Regional Council Cost: none

Barriers: City governments sometimes are unwilling to increase new levy rate above previous levy rate. Disagreement regarding length of levy and if levy is the appropriate way to fund EMS services are also barriers to the process.

E. Patient Care Procedures (PCPs), County Operating Procedures (COPs) and multi-county/inter-regional operations

1. System Status (Region):

- Process for development and review of Regional PCPs and COPs.
  The MPD, medical directors, EMS providers, hospitals, Regional Council members, King County EMS and other EMS providers may request development of a new PCP by presentation at the appropriate committee. For example: the Hospital Committee develops and reviews hospital related PCPs such as minor trauma and medical transport and trauma team activation, the Prehospital Committee develops and reviews PCPs related to prehospital issues such as triage and mode of response and transport. The Quality Assurance Committee initiates development or review of a PCP by discussion at the request of the Regional Council, Prehospital Committee, or Hospital Committee. All Committee PCPs are reviewed by the Regional Council, and if approved are forwarded to DOH for review and possible adoption.

- Status of multi-county and inter-regional protocols and operations.
  MOU/MAA
  Two formal agreements exist between King, Pierce, and Snohomish County, the Inter-county Mutual Agreement Omnibus Agreement (1/26/2000) and the Interlocal Agreement for Joint Participation in Homeland Security and Emergency Preparedness Programs Between and Among King County, Pierce County and Snohomish County Washington (6/10/2003).

  Communication Plan
  The Central Region Trauma Council Regional Communications Plan incorporates strategies for inter-agency 800MHz communications between King/Pierce and Snohomish Counties.

  EMS
  EMS agencies in King, Pierce, and Snohomish counties routinely provide automatic-aid and mutual aid support to other EMS agencies that may involve dispatching of units from bordering departments on a first-alarm basis. Bordering EMS agencies who offer support coordinate their 800 MHz talkgroups for cross programming or radios. Snohomish and Pierce County radios are authorized to operate on KCMED OPS 1and KCMED OPS 2 talkgroups when responding in King County.

  EMS agencies in Pierce and Snohomish counties are not directly connected to the King County regional network's switch. Radios must have the mutual aid talkgroup programmed in their radios so they can be merged into an incident talkgroup.

EMS responders from outside the region and not 800MHz capable may patch to a talkgroup via UHF Medcom 1. Medcom 1 interfaces with the 800MHz system to allow communications with incoming EMS resources which are part of the Communications Plan.

Hospitals
Regional hospitals monitor their respective "Hospital Common" Talkgroup including King County (KC Hospital Common), Snohomish (SN Hospital Common), and Tacoma-Pierce County (PR Hospital Common.

The tri-county medical control hospitals also monitor their respective talkgroups for EMS communications. Hospital participating in this talkgroup structure includes:

King County	**Pierce County**	**Snohomish County**
Enumclaw	Allenmore	Providence-Everett
Evergreen	Good Samaritan	Stevens
Harborview	Madigan	Valley General
Highline	Mary Bridge	
Northwest	St. Clare	
Overlake	St. Joseph	
St. Francis	Tacoma General	
Valley		

PCPs are included as **Exhibit 2.**

2. System Need Statement:

Central Region PCPs have been revised to define the circumstances under which private ambulance providers may respond to scene and transport patients code red. Published reports indicate that BLS patient care is not compromised by slower secondary response and transport, however fire department personnel have complained of longer scene times while waiting for transport to arrive. The Central Region Prehospital Subcommittee and King County EMS Division will collect and review data to determine if this PCP affects patient outcomes or fire department response. If data suggests that patient care and/or ability of the fire department to respond to incidents is compromised by this PCP, PCPs will be appropriately revised.

Swedish Medical Center is opening a free-standing emergency room in Issaquah. The current PCPs for Medical and Minor Trauma does not allow transport of patients to non-hospital settings, however King County EMS Division ADAPT guidelines do allow BLS transport of patients to non-hospital settings such as urgent care clinics under strict parameters. The regional PCPs need to be revised to allow BLS to transport patients under the ADAPT guidelines.

3. Goals:

Goal 1: Effect of BLS Code Red Response and Transport PCP is known.

Objective 1: Region will determine if private ambulance response and/or transport times negatively affect patient care by December 30, 2006.

Strategy 1: Collect and evaluate prehospital response, scene and transport time data and match with patient outcome data from June 2005 through December 30, 2006.

Strategy 2: Through discussion with private providers determine what other factors contribute to longer response and transport times.

Strategy 3: Amend PCP if necessary.

EMS System Cost: $0
Regional Council Cost: To be included in HIPRC contract statement of work.

Section V. - Designated Trauma Care Services

A. Trauma Services

1. System Status (Region):

Table F. Approved Minimum/Maximum (Min/Max) numbers of Designated Trauma Care Services (General Acute Trauma Services)

Level	State Approved		Current Status
	Min	Max	
II	0	0	0
III	3	3	3
IV	4	4	4
V	1	1	1
II P	0	0	0
III P	0	0	0

Table G. Approved Minimum/Maximum (Min/Max) numbers of Designated Rehabilitation Trauma Care Services

Level	State Approved		Current Status
	Min	Max	
II	4	6	1
III*		1	0

- Current network of designated trauma care services within the region.
  Central Region hospital resources provide health care to 1.78 million residents of King County as well as a large number of workers from neighboring counties (King County holds 50% of the population and 79% of the jobs in the King, Pierce, Snohomish Counties[4]). The Region's facilities also serve as referral destinations for patients originating from Idaho, Alaska, Montana and Washington. Of the nineteen full-care hospitals in King County, ten are located in Seattle; nine are located in adjacent cities. The total staffed bed capacity of Central Region is 4,069. Central Region designated trauma centers treated 6741 serious trauma patients in 2003. Isolated hip fractures were omitted from this data.

  Nine hospitals and three rehabilitation facilities are designated trauma services in the Central Region. Level 1-IV trauma centers are located along the I-5 and I-405 corridors proximal to the large population centers of the region. Enumclaw Community Hospital, a level V facility, is located just off Highway 410.

  Role of Hospital Control and Local Medical Control

[4] Annual Growth Report 2003

Harborview Medical Center is designated Hospital Control. Overlake Medical Center serves as alternate. Hospital Control is responsible for patient distribution in multiple casualty incidents (reference MCI Hospital Utilization Guidelines). In the event of a disaster Hospital Control will also serve as medical needs liaison between Public Health – Seattle and King County and all hospitals in the region.

Local medical control physicians are established at each of the nine trauma centers. Prehospital agencies at the scene or while transporting a patient will notify medical control at the closest trauma center or Harborview Medical Center of the patient's condition, medical profile, and estimated arrival time.

Transfer agreements

Patients requiring medical care beyond the practice of a receiving hospital may be stabilized and transferred via ALS ground transport or Airlift Northwest to Harborview Medical Center. The transferring hospital will notify HMC of the patient's condition and include diagnostic information such as x-ray films and patient chart. Hospitals also have transfer agreements for use when transferring a patient to a facility closer to home or family.

Hospitals that transfer patients to HMC for acute care have historically not made arrangements for the patient to return. HMC has developed a new patient transfer agreement which requires the transferring institution to make a room available within three days of the patients release from HMC or be charged for the care of that patient.

Hospital Capacity Website and Diversion

Hospitals in the Region have agreed to update their bed count on the Hospital Capacity Website twice daily and to post any diversion information on the web. Hospitals have agreed to come off divert when a given number of neighboring hospitals within their zone go on divert (reference Exhibit 3 Notification to Prehospital Agencies of Hospital Diversion). Hospitals are encouraged to communicate with one another to solve simultaneous ED closures within a zone.

The Central Region Prehospital Committee and MPD have recently been made aware that some hospitals are not always reporting ED closures on web, but are calling dispatch to inform them they are on divert. ED closures during last year's snow and windstorms revived the fear that EMS personnel will have few options where to take their patients in inclement weather.

- Other system status information

Rural and Wilderness Hospital Access

In 2004, Enumclaw Community Hospital was designated a level V facility. Enumclaw serves the suburban - rural area between Auburn and the south King County border as well as Highway 410 and the western edge of Mount Rainier National Forest including Crystal Mountain ski area.

Snoqualmie Valley Hospital requested revision of the min/max number of level V facilities to support their Critical Access Hospital (CAH) funding request. CAH requires trauma designation in order to qualify for the CAH grant. There are few cases where patients are

stabilized at Snoqualmie and transferred. Any ALS transports would bypass Snoqualmie enroute to Overlake (23 miles west) or HMC (28 miles west). While the Committee supports Snoqualmie's need for CAH funding, the need for a level V facility in Snoqualmie could not be established.

Out of County Diversion

Central Region hospitals often treat patients from bordering county hospitals that are on divert. Tacoma-Pierce County hospitals are particularly problematic with multiple emergency department closures. EMS agencies in north Pierce County then transport patients to Auburn Regional and St. Francis. Frequent closures in Pierce County result in increased out of service times for EMS agencies in Pierce County and increased emergency department load in King County. Pierce County is developing a no-closure policy and is piloting the policy to determine the effect on Pierce County hospitals. The Central Region Q/A Committee is monitoring Pierce County hospital closures using Hospital Capacity Website data.

Stand-alone Emergency Departments

A stand-alone emergency department is being opened in Issaquah in March 2005. Discussions at the Hospital Committee and Regional Council center around how such emergency rooms will fit into the current EMS system. These units will not have access to certain types of diagnostic equipment such as cath labs or surgical facilities that are found in hospitals. Hospital Committee members have expressed concern on impact to local hospitals and patient outcome. Ambulance services may be called back to transport patient to appropriate hospital for recovery, further diagnostics, and or surgery. Patients arriving by private vehicle may be referred to a hospital for care.

The Central Region EMS and Trauma has issued a position paper stating that within the Central Region, no ALS or BLS ambulances will transport patients with emergency medical conditions to free standing emergency centers. Ambulance transport of patients with emergency medical conditions to free standing medical centers not physically attached to a hospital is medically unsafe and unsound practice. This position does not intend alter the existing Appropriate Destination and Patient Treatment project of King County EMS which allows EMT transport to urgent care centers for limited clinical conditions. Medical and Minor Trauma Patients PCPs will be revised to incorporate the ADAPT guidelines and allow BLS to transport patients to the Swedish Emergency Room.

Appropriate Care

Violent, inebriated, and mental health patients are routinely transported to Harborview Medical Center by police and private ambulance bypassing closer appropriate care. Occasionally police at the scene of an incident will instruct private or public EMS personnel to take a patient to Harborview, circumventing EMS authority and protocols.

Some hospital emergency departments are transferring difficult or violent patients to Harborview because they don't want them in their waiting room. Harborview's emergency department closed twice in 2004 due to overcrowding and lack of suitable beds. Recently Harborview Medical Center staff and University of Washington Attorney General staff met with local law enforcement to discuss patient transport issues and increase awareness of proper treatment facilities for inebriates and commitment laws for mental health patients.

2. System Need Statement:

- Gaps in the current system related to hospital based trauma care

  The historic and current need of the Central Region and other regions' medical community is monetary. Lack of public funding for healthcare including medical, dental, vision, mental health services, and drug/alcohol treatment continues to be the single most significant factor in granting access to healthcare. Prevention and early diagnosis and treatment saves the medical system money, yet funding of healthcare continues to erode as the price for healthcare continues to escalate. The result is sicker people being funneled into a shrinking pool of healthcare providers and institutions.

  Lack of funding is directly related to:
  - Staff shortages
  - Lack of general and specialty surgeons
  - Lack of preventive and primary care
  - Hospital and emergency department overcrowding
  - Increased hospital admissions
  - Loss of rehabilitation facilities and skilled nursing facilities

  In some states hospitals have dropped out of the trauma center business citing the lack of adequate reimbursement as the main cause. Hospitals in other regions have indicated that they may follow suit. In Washington State many physicians, pharmacists, and other healthcare providers are no longer accepting Medicare and Medicaid patients. Medicare and Medicaid patients need access to healthcare. When patients are turned away from the door of their local physician or specialist, they turn to local emergency departments for medical treatment. Emergency Department visits cost three to four times more than a visit to a primary care physician or clinic. Often medical and minor trauma patients referred to Harborview Medical Center for initial treatment or are transferred from other hospitals for surgery and/or follow-up care. The practice of sending non-insured and under-insured patients to HMC contributes to overcrowding of HMC's ED and has resulted in several closures in 2004.

  Use of primary care physicians for prevention, early intervention, treatment of non-emergent conditions, and follow-up care saves the healthcare system money. It is important that private insurance providers and public health agencies develop and promote a healthcare system that fairly reimburses healthcare providers and allows adequate access to medical, dental, vision, and mental health care for all people. Clearly there is a need for physicians and hospitals to share the burden of caring for under-insured and uninsured patients and to continue to voice concern to government officials over lack of public funding for healthcare. Washington State Hospital Association and Harborview Medical Center have spearheaded

discussions among hospitals CEOs in the State with the clear goal of developing an access to healthcare guideline. The guideline will be based on the trauma system model of providing appropriate level of care and shared responsibility for care of the medically indigent and underinsured.

- Other system needs include:
  - ✓ Affordable medical malpractice insurance
  - ✓ Renewed commitment of all hospitals to report emergency department status and bed census on web and remain open in inclement conditions.
  - ✓ Law enforcement guidelines for appropriate destination of inebriated, unruly, and mental health patients
  - ✓ Funding mechanism to support staff, training and technology related to medical care in the 21st century.
  - ✓
- Recommendations for changes to minimum and maximum numbers and levels of designated general, pediatric, and rehabilitation trauma

  There are no recommended changes to Min/Max numbers of designated trauma services.

3. Goals:

Goal 1: Patients have access to appropriate healthcare.

Objective 1: WSHA Healthcare Access Workgroup will develop an access to healthcare guideline by 12/31/2006.

Strategy 1: WSHA workgroup will continue to meet and develop a healthcare access guideline.

Strategy 2: The Regional Council will continue support efforts of WSHA healthcare access workgroup in development of healthcare access guideline.

Strategy 3: The Hospital Committee will discuss and explore means to entice ED general surgeons and specialists to evaluate and treat patients, and transfer patients to a higher level service when appropriate.

Objective 2: Washington physicians and surgeons will have access to affordable medical malpractice insurance. The Region will provide annual progress reports

Strategy 1: WSMA and King County Medical Society will continue to promote medical malpractice insurance tort reform.

Strategy2: The Hospital Committee and Regional Council will continue support of WSMA and other physician groups in effort to decrease cost of medical malpractice insurance.

Objective 3: Prehospital personnel will be able to transport patients to the closest appropriate facility regardless of weather conditions by September 30, 2005.

Strategy 1: Hospitals will use the Hospital Capacity Website to post all ED closures and diversion requests.
Strategy 2: Hospitals EDs will remain open during inclement weather.

Objective 3: Law enforcement will have a clear understanding of their role in determining patient destinations by December 31, 2006.

Strategy 1: Harborview staff and University of Washington Attorney General staff will continue education outreach to local law enforcement, EMS, and other parties regarding appropriate treatment facilities for inebriated and mentally ill patients.

EMS System Costs: There are personnel costs involved in workgroups, meetings, seminars, and planning sessions, dollar value is not known.
Regional Council costs: none

Section VI. - EMS and Trauma System Evaluation

A. Information Management
1. System Status (Region):

- Regional involvement in statewide planning for the Washington EMS Information System (WEMSIS)
  King County EMS Division and several fire departments attend semi-monthly EMS registry (WEMSIS) meetings and summits hosted by DOH in support of state data collection.

- Status of EMS data collection by prehospital agencies within the region including the use of electronic data collection

  100% of Central Region fire departments submit data to King County EMS. As of December 1, 2004, data for 2004 is 70% complete. Following is a breakdown of agencies providing MIRF data electronically vs. paper:

Electronic submissions	**Paper submissions**
Shoreline Fire	KCFD 2
North Highline Fire	Eastside Fire & Rescue **
Vashon Island Fire & Rescue	Northshore Fire
Federal Way Fire	KCFD 20
KCFD 40	KCFD 26
Maple Valley Fire & Life Safety	KCFD 27
Auburn Fire	KCFD 44*
Bellevue Fire	Duvall Fire
Kent Fire	KCFD 47
Kirkland Fire	KCFD 50
Mercer Island Fire	Snoqualmie Pass Fire
Redmond Fire	Black Diamond Fire
Seattle Fire	Bothell Fire
SeaTac Fire	Enumclaw Fire
Port of Seattle	Pacific Fire*
	Renton Fire*
	Snoqualmie Fire & Rescue
	Tukwila Fire*
	King County Medic One**

*Fire departments to submit electronically in 2005 **Medic One to submit electronically in 2006

- Availability of EMS run times from dispatch centers in the region.
  EMS data including run times are made available to the Central Region Trauma Registry from data managed by the King County EMS Division.

- Status of submission of timely prehospital trauma data to receiving Trauma Services

  Central Region EMS providers submit data, including run times, in the following manner:

  Prehospital providers

  - ✓ Transporting agencies leave (MIRF) Medical Incident Report Forms or equivalent at the hospital as required by WAC 246-976-330. MIRFs are submitted for all patients, not just trauma patients.
  - ✓ All public King County EMS agencies outside of Seattle that do not submit data electronically, send completed MIRFs to King County EMS.
  - ✓ King County EMS agencies that collect data electronically send their data to King County EMS Division.
  - ✓ King County EMS Division currently sends prehospital data directly to the Central Region Trauma Registry. In the near future, KCEMS will send data to DOH. DOH will send prehospital trauma data to the Central Region Trauma Registry. This method will ensure that the prehospital data is protected from discovery as a subset of the State Trauma Registry.
  - ✓ Seattle Fire Department submits data to King County EMS Division and Central Region Trauma Registry.
  - ✓ Private agencies submit data (including run times) to the State Trauma Registry.
  - ✓ Non-transporting agencies give a copy of the initial MIRF or equivalent to the transporting agency so they can include it with the information given to the hospital.

  Trauma Centers

  Trauma centers enter the available prehospital patient care information in their records and submit data to DOH.

2. System Need Statement:

- Needs within the region related to any gaps in EMS and trauma information management by agencies or trauma centers including any from #1 above.
  Prehospital and hospitals are largely compliant regarding timely submission of data to the respective agencies assigned to collect the data (DOH and King County EMS).

However, data elements may be missing or incorrect for a number of reasons:

- Data may be incomplete or missing from MIRFs.
- MIRFs may not be left at the hospital with the patient or lost at the hospital.
- Hospital trauma registrars might enter incorrect data or misinterpret data elements.

The Central Region is sponsoring a prehospital data improvement conference in spring 2005 that will address the issue of missing data/MIRFs.

Trauma centers are looking for a reliable, easy to use patient tracking/outcome software package to help "close the gap" in their QI programs.

3. Goals:

Goal 1: Accurate and complete patient data is available in the Central Region

Objective: Monitor availability of data annually through HIPRC.

EMS System Cost: none
Regional Council Cost: Included in HIPRC contract ($115,000 in 2006)

Goal 2: Patient tracking/outcome software is available to trauma centers

Objective: Hospitals will review available software and make recommendation for purchase by April 2006

Strategy: Hospital ED staff will share information regarding software reviewed.

EMS System Cost: to be determined
Regional Council Cost: none

B. Quality Assurance

1. System Status (Region):

- Prehospital agency QA functions within the regional system for patient care evaluation of general EMS patients and for Trauma patients as a subsection of EMS calls

<u>Prehospital agencies</u>
Prehospital agencies conduct internal quality assurance activities that may include customer service surveys, run reviews, sentinel case reviews, tape reviews, and employee interviews.

<u>EMS Division</u>
The EMS division of Public Health – Seattle & King County has developed the EMS Division Quality Management Plan that includes evaluation elements for all organizations within the Division. The Plan provides a consistent review process to ensure quality practices. The review process includes:

- Evaluation of EMT/CBT/CBD instructors
- Review of random and sentinel cases
- Review of compliance data
- Analysis and review of system response data
- Random review of cases/tapes.
- EPI Auto-Injector case review (EPI Pen)
- Review of defibrillation cases
- ALS quality review
- Review of MIRFs for complete data
- Review of current prehospital medical practices
- Review of all cardiac and defib cases
- Evaluate new techniques, equipment and medications

- Current role of the MPD in prehospital QA/QI
  The MPD is extensively involved in EMS quality assurance activities and development of EMT training programs aimed at improving patient outcome. The MPD is part of a team of EMS Division personnel that reviews random and sentinel cases, current prehospital practices, and new techniques, equipment and medications.

- Regional EMS and Trauma QA Program functions within the regional system for trauma care evaluation
  The Central Region Quality Assurance Committee reviews system performance and patient outcomes as they relate to major trauma. Membership on the Committee includes trauma centers, pre-hospital ALS providers, Public Health, medical directors, and the Medical Examiner. Reports developed by Trauma Registry staff are reviewed during Quality Assurance Committee meetings. The Quality Assurance Committee meets five times per year. Reports and data include:

  - ✓ Annual examination of unexpected deaths
  - ✓ Trauma specific studies
  - ✓ Individual case review
  - ✓ Patient distribution
  - ✓ Evaluation of prehospital response, scene, and transport times

  The Quality Assurance Committee is recognized by the State of Washington as an activity consistent with RCW 43.70.510. Members and guests sign a pledge of confidentiality when they sign the attendance roster. Registry staff is responsible for distribution, collection, and disposal of confidential printed materials provided at each meeting.

  The Hospital Committee and/or Regional Council may review system improvement recommendations submitted by the Quality Assurance Committee.

  <u>Central Region Trauma Registry</u>
  The Central Region Trauma Registry provides data for system review. The Registry receives and analyzes data provided by the designated trauma centers, Seattle and King County EMS

agencies; and State Department of Health (DOH).

- Use of regional data for developing recommendations for system change
  Response time and demand are used to determine placement of ALS vehicles (geography, topography and traffic patterns are factors related to response time; population density, mean age, and mean financial status are related to demand data). Recommendations for the need and distribution of services in the Central Region are consistent with RCW 70.168.100 (1)(h) and WAC 246-976-960 (1)(b)(i).

  BLS services make deployment decisions based on growth in demand for services, response times, and financial resources. By utilizing the established locations and staffing of local fire departments and private BLS agencies, the Central Region provides near optimal response times.

  Central Region Quality Assurance Committee meets five times yearly to discuss system evaluation reports prepared by Trauma Registry Staff. System-wide patient care issues may be further evaluated to determine if new treatment procedures or guidelines are needed or if services such as a new trauma center designated or ALS service verified.

2. System Need Statement:

- Needs within the region related to quality processes
  Due to the past inability to link prehospital data to hospital data, the impact of prehospital care on the outcome of trauma patients has not been evaluated by the Central Region Quality Assurance program. HIPRC has developed a program to link prehospital data to hospital data. The Region can now begin evaluation of prehospital care based on patient hospital records.

- Issues that limit effectiveness of QA within the region.
  There is resistance among prehospital agencies to discuss prehospital patient care issues as a part of the Region's Quality Assurance program. Traditionally prehospital quality assurance review is done by the medical director of each agency and King County EMS.

3. Goals:

Goal 1. Influence of prehospital care on patient outcome is known

Objective 1: Patient outcome data as it relates to continuum of care and patient outcome is available for Q/A Committee review at its regularly scheduled meetings.

Strategy: Prehospital MIRF is linked to hospital patient record.

Strategy: Compare expected patient outcome with actual outcome.

Objective 2: Prehospital providers participate in Q/A Committee meetings.

Strategy: Specific agencies to Q/A meetings when prehospital outcome data is being reviewed.

EMS System Cost: none

Regional Council Cost: $225,000 for the biennium for the regional HIPRC/Trauma Registry contract.

Barrier: There is resistance among prehospital agencies to discuss prehospital patient care issues as a part of the Region's Quality Assurance program

Section VII. - All Hazards Preparedness (natural, man made, & terrorism)

A. Prehospital Preparedness

1. System Status:

- Level of collaboration across disciplines within the Region for All Hazards Preparedness planning and exercises/drills
  Local fire departments have developed working relationships with businesses, law enforcement and neighboring fire departments. For example: Redmond and Shoreline fire departments worked with schools, Microsoft, Rural Metro Ambulance, AMR, and law enforcement in planning and executing two separate drills in April 2004. King County Medic One and south King County fire departments, the FCC, Port of Seattle – SeaTac, American Red Cross and private ambulance services plan and conduct biannual airport disaster exercises. Fire departments, cities, and other signatories to the Regional Disaster Plan (RDP) participate in Regional Disaster Plan Task Force (RDPTF) meetings, seminars, and exercises.

- Regional Council's role in prehospital All Hazards planning and activities within the Region
  Regional Council membership participates in planning, exercise, and drills through a number of venues including:
  - FCC – Port
  - NDMS
  - US Army
  - Fire department zone meetings
  - RDP
  - ODP
  - WSHA disaster planning committee
  - Region 6 Hospital Disaster Planning Committee
  - Central Region Prehospital Committee
  - Regional Disaster Planning Task Force meetings

- Status of the following for WMD preparedness

  <u>Prehospital WMD equipment</u>
  Public prehospital agencies are receiving equipment funding through ODP and Homeland Security grants. All agencies will need to be surveyed to determine additional equipment needs.

  <u>Prehospital WMD awareness training</u>
  All agencies need to be surveyed to determine who needs WMD training and what additional training is needed.

Written agreements between prehospital agencies for mutual agency response in disaster for WMD natural/manmade incidents

Four written agreements exist for prehosptial agencies within King County:

- King County Regional Disaster Plan
- Fire Chiefs MCI Plan
- State Fire Mobilization Plan
- Interlocal Agreement for Joint Participation in Homeland Security and Emergency Preparedness Programs Between and Among King County, Pierce County and Snohomish County, Washington

Current capability in the region for providing prehospital field burn care for a group of 50 severely burned adult and pediatric patients

The region's prehospital community is not currently capable of caring of 50 severely burned adult and pediatric patients.

- Status of the following related to interoperability between agencies and across multiple disciplines in multiple-patient and mass casualty/disaster incidents

Equipment resources (compatible care equipment, radios etc)

Equipment such as 800 MHz radios, PPE, radiation detectors are compatible. Status of other types of equipment is not known at this time.

EMS agencies communications (with dispatch, between units and disciplines across the region, and with receiving hospitals for on-line medical direction

The updated Central Region Communications Plan is in the final draft stage.

WMD patient care procedures/protocols/guidelines

WMD patient triage guidelines have been developed in the Fire Chiefs MCI Plan. WMD patient care procedures/protocols or guidelines have not been developed.

2 System Need Statement

- Needs within the region related to All Hazards Preparedness

Communications

The Region needs to adopt a Statewide Communications Plan. Pierce County fire department need to purchase 800MHz radios in order to participate with the talkgroups specified in the Central Region Communications Plan.

WMD awareness training

Agencies need to be surveyed to determine current WMD awareness training needs.

WMD equipment

Agencies to be surveyed to determine current need for WMD equipment.

Written All Hazards mutual response agreements

- Written all hazards MOU/MAAs have been completed.

Preparedness exercises of various types for natural, manmade, and WMD incidents
ALS agencies participate in several multi-department based exercises every year. Smaller agencies may not be able to participate in large drills due to personnel availability. There is a need for a multi-county drill; however, the logistics and expense of planning and holding such a drill or exercise is prohibitive without additional funding.

Interoperability between agencies and across multiple disciplines
Interoperability between agencies and multiple disciplines have been tested during FCC – Port of Seattle/SeaTac biannual drills, King County Fire Zone 1 MCI drills and Blue Cascade II. Portions of multi-discipline interoperability are currently being tested via KCRDP Task Force seminars, tabletops and drills. Agencies and businesses in the Region continue to develop and participate in new drills including Ultimate Caduceus drill which takes place in March 2005. Overtime and backfill costs are an issue and must be considered.

Existing needs in the Region for prehospital field care, equipment, and transport for a group of 50 severely burned patients
Transport for patients would likely be available; however a list of equipment and supplies needs to be developed and adequate stockpile made available. Treatment protocols and training need to be developed.

3. Goals:

Goal 1: Prehospital personnel will possess skills and equipment necessary to properly triage and treat trauma and burn patients.

Objective 1: Provide training and skill improvement courses via the training website by March 30, 2006.

Strategy 1: Conduct quality assurance studies through review of MIR forms and verbal/written reports of EMS personnel.

Strategy 2: Develop skills improvement training for CBT web site including programs in

- Trauma Procedures – a quick reviews of trauma skills
- Explosive injury
- Burn injury

Strategy 3: Develop prehospital protocols for burn patient care.

EMS System Cost: The EMS system cost is not known at this time.

Regional Council Cost: The Regional Council plans to fund development of one trauma related web training module per year. The estimated Regional Council cost is $9740 for the biennium.

Objective 2: Provide prehospital personnel and agencies with equipment and supplies sufficient to treat 50 burn/trauma patients by 6/30/07.

Strategy 1: Survey agencies for equipment, and supply needs.

Strategy 2: Develop matrix with all stakeholders to identify deficiencies and develop funding proposal.

EMS System Cost: Total cost for prehospital preparedness is not known at this time. Training and equipment/supplies needs survey to be conducted.

Regional Council Cost: Approximately $80,000 may be made available over the biennium for distribution between hospitals and prehospital agencies (providing regions receive funding at the current rate).

Barrier: Availability of funds for development of educational materials, supplies and exercises.

B. Hospital Preparedness

1. System Status (Region):

- Level of collaboration across various disciplines within the Region for hospital disaster readiness planning, exercises/drills
  WSHA, PH-S&KC and KCECC are the leads in collaboration for hospital disaster readiness planning, exercises, and drills. All hospitals in the region are involved in:
  - WSHA Disaster Planning Meetings,
  - King County (Region 6) Emergency Preparedness Committee
  - Hospital Strategy and Planning Subcommittee
  - Pharmacy Subcommittee
  - Laboratory Subcommittee
  - Training Subcommittee
  - ODP/Homeland Security
  - KCECC/RDP Disaster Planning Task Force
  - ORWG (Outbreak Response Workgroup)

- Regional Council's role in hospital All Hazards planning and activities within the Region
  Regional Council membership and all Central Region hospitals participate in planning, exercise and drills through a number of venues including:
    - FCC – Port
    - NDMS
    - US Army
    - Fire department zone meetings
    - RDP
    - ODP
    - WSHA disaster planning committee
    - Region 6 Hospital disaster planning committee
    - ORWG (Outbreak Response Workgroup)

  The Regional Council administrator has a close working relationship with PHS&KC with regards to all hospital preparedness and planning meetings including needs prioritization and updating the Region 6 Hospital Disaster Plan.

- Regional Hospital Plan - Preparedness and Response for Bioterrorism.
  The Region 6 Hospital Disaster Plan will be updated following revision of the Region 6/Public Health Seattle & King County ESF-8.

2. System Need Statement:

- Needs within the region related to hospital preparedness
  The following needs have been established through various hospital disaster planning meetings:
    - Statewide Communications Plan
    - Funding for equipment and supplies used in drills
    - Training funds
    - Evacuation Sleds
    - Expanded isolation capacity
    - Decon materials
    - Expanded lab capacity
    - Pediatric supplies and pharmaceuticals
    - Credentialing system (IRIS or similar)
    - Patient tracking system (IRIS or similar)
    - Mobile isolation hospitals and staff
    - Functional Region 6 Hospital Disaster (all hazards) Plan that is compatible with existing King County plans and ESFs.

3. Goals:

***Goal 1*:** Revised Region 6 Hospital Disaster Plan is a functional plan compatible with and attached to, ESF-8.

Objective 1: Revise ESF-8 by July 2005.

Strategy 2: Involve Hospital Subcommittee and Hospital Disaster Planning Committee in ESF-8 revision discussion to ensure that Hospitals and PH understand roles and have algorithms, laws etc in place to enact ESF-8 responsibilities.

Objective2: Revise Hospital All Hazards (disaster plan) by September 2005.

Strategy 3: Hospital Disaster Planning Committee reviews materials submitted by Subcommittee – recommends changes to Hospital All Hazards Plan.
Strategy 4: Hospital All Hazards Plan appended to ESF-8.

Goal 2: Hospitals have access to training, equipment and supplies to support their role in disaster response

Objective 1: Develop tactical plans (road map) to identify gaps, needs, goals to meet needs establishes strategies to accomplish goals by March 2006.

Strategy 1: Hospital Strategy and Planning Subcommittee identifies resources, partners, best practices, perform gap analysis.
Strategy 2: Hospital Strategy and Planning Subcommittee lists prioritizes needs and funding required and submits proposal to Hospital Disaster Planning Committee.
Strategy 3: Hospital Disaster Planning Committee makes funding requests to various grant sources.

EMS System Cost: Total cost for hospital preparedness is not known at this time. Training and equipment/supplies needs survey to be conducted.
Regional Council Cost: Approximately $80,000 may be made available over the biennium for distribution between hospitals and prehospital agencies (providing regions receive funding at the current rate).

Barriers: Availability of funds for development of educational materials, supplies and exercises.

Exhibit 2 – Central Region Patient Care Procedures

CENTRAL REGION PATIENT CARE PROCEDURES

June 30, 2005

Submitted by:

Central Region
Emergency Medical Services and
Trauma Care Council
999 Third Avenue
Suite 700
Seattle, Washington, WA 98104

CENTRAL REGION
PATIENT CARE PROCEDURES

INTRODUCTION

WAC 246-976-960, Regional Emergency Medical Services and Trauma Care Systems, established the requirement for regions to adopt patient care procedures and specifically identified elements that must be included. The Central Region has developed and adopted Patient Care Procedures consistent with this requirement.

TABLE OF CONTENTS

PART I

Prehospital Response to an Emergency Scene

Part I: Prehospital Response to an Emergency Scene

Dispatch

Dispatch centers are accessed through the enhanced 911 system. Regional dispatch centers dispatch EMS units in accordance with King County Criteria Based Dispatch Guidelines. Seattle dispatchers use Seattle Fire Department Dispatch Guidelines. Dispatchers provide bystander emergency medical instructions while EMS units are in route to the scene.

Reference: Dispatch Center Contacts
Dispatch Boundaries Map

Basic Life Support

Basic Life Support response is provided by city and county fire department units staffed by First Responders and EMTs or private ambulance services staffed by EMTs. The nearest unit to an emergency scene will be dispatched following established dispatch guidelines.

Reference: Seattle Fire Department Station Location Map
King County Fire Department Service/Area Boundaries Map

BLS Code Red Response and Transport

Note: Primary responding EMS personnel refers to fire department EMT personnel or paramedics response originating as part of the 911 EMS system. Emergency response refers to travel with light and sirens. The following procedures are intended to maximize patient safety and minimize risk to life and limb. Common sense and good judgment must be used at all times.

1) The response mode from primary BLS response (fire department EMT personnel) shall be based on information made available to the EMS dispatchers and the decision for mode of travel made according to dispatch guidelines.
2) The default mode for travel to the scene for non-primary BLS responders shall be by non-emergency response unless a specific response for code-red (emergency response) is made by primary responding EMS personnel at the scene or specific protocols or contracts defining response modes exist between fire departments or private agencies and private ambulance companies.
3) The default mode for BLS transport from scene to hospital shall be by non-emergency response unless a specific response for code-red transport is made by primary responding EMS personnel at the scene.
4) If a patient undergoing BLS transport to hospital deteriorates, the BLS personnel should contact the EMS dispatcher and ask for paramedic assistance, unless documentary evidence exists to travel code-red to hospital (such as travel to hospital can occur faster than waiting for paramedic assistance).

Advanced Life Support

The paramedic unit nearest the emergency scene is simultaneously dispatched consistent with dispatch guidelines. Paramedic units provide advanced life support transport.

Reference: Paramedic Response Area Map

Wilderness

Wilderness response is directed by the King County Sheriff Search and Rescue Coordinator. EMS units may be dispatched to a staging area depending on the nature and location of the incident.

DISPATCH CENTER CONTACTS

Company	Title	First Name	Last Name	Phone	Fax	Address1	City
Eastside Communications Center	OPs	Pam	Heide	(425) 452-2920	(425) 452-4340	16100 N.E. Eighth	Bellevue
	Dispatch			(425) 452-2048			
Valley Communications Center	OPS	Mark	Morgan	(253) 854-4320	(253) 850-3068	23807 98th Ave. S.	Kent
	Dispatch			(253) 854-2005			
Port of Seattle		Phyllis	Hull	(206) 431-4457	(206) 439-5167		
Enumclaw Police Department		Mimi	Jensen	(360) 616-5800		1705 Wells	Seattle
	Lt.	Eric	Sortland	(360) 616-5800	(360) 825-0184		
Seattle Fire Department	Battalion Chief	John	Pritchard	(206) 1493	(206) 684-7276	2318 Fourth Ave	Seattle

PART II

Triage of Trauma Patients

Part II: Triage of Trauma Patients

These procedures are intended to provide guidance to prehospital care providers and their medical control physicians in determining which trauma center will receive the patient.

1. Prehospital providers will contact online medical control of the closest trauma center or Harborview Medical Center (Reference: Designated Trauma Centers in King County/Paramedic Response Area). Medical Control or Harborview Medical Center will determine patient destination consistent with Central Region Trauma Patient Care (Triage/Destination) Procedure.

2. The primary destination of pediatric patients meeting Step 1,2 or 3 inclusion criteria of Central Region Trauma Patient Care (Triage/Destination) Procedure is the Level I trauma center.

3. Unstable trauma patients should be managed consistent with the Central Region Trauma Patient Care (Triage/Destination) Procedure. Unstable trauma patients are those needing a patent airway or who may benefit from the initiation of fluid resuscitation. EMS providers who are unable to secure an airway or establish an intravenous line should consider these factors in the following order:

    a. time to arrival of responding medic unit
    b. time to rendezvous with responding medic unit
    c. time to nearest trauma center
    d. time to arrival of Airlift
    e. time to nearest hospital with 24 hr emergency room
    f. unusual events such as earthquakes and other natural disasters

4. Patient destination decisions will be monitored by the Regional Quality Assurance Committee

The goal in treating the unstable trauma patient is to provide potential life saving intervention and transportation to the highest-level trauma center able to provide definitive treatment. Ideally these interventions will be performed in a manner that does not unduly delay transport of a patient to the appropriate level of trauma center. This may require EMS providers to stop at a local hospital to stabilize and then transfer the patient to the trauma center.

Consistent with interfacility transfer agreements, trauma patients stabilized at non-designated hospitals should be transferred to a trauma center as soon as possible. Likewise, patients stabilized at Level III or IV trauma centers and meeting the criteria for triage to the Level I trauma center should be transferred as necessary.

The State's Level I trauma center is:

Harborview Medical Center
325 Ninth Avenue
Seattle, WA 98104

Transportation of trauma patients from wilderness areas is primarily accomplished by helicopter. The Level I trauma center should be the primary destination of these patients.

Reference: State of Washington Prehospital Trauma Triage (Destination) Procedure

STATE OF WASHINGTON
PREHOSPITAL TRAUMA TRIAGE (DESTINATION) PROCEDURE

Purpose

The purpose of the Triage Procedure is to ensure that major trauma patients are transported to the most appropriate hospital facility. This procedure has been developed by the Prehospital Technical Advisory Committee (TAC), endorsed by the Governor's EMS and Trauma Care Steering Committee, and in accordance with RCW 70.168 and WAC 246-976 adopted by the Department of Health (DOH).

The procedure is described in the schematic with narrative. Its purpose is to provide the prehospital provider with quick identification of a major trauma victim. If the patient is a major trauma patient, that patient or patients must be taken to the highest-level trauma facility within 30 minutes transport time, by either ground or air. To determine whether an injury is major trauma, the prehospital provider shall conduct the patient assessment process according to the trauma triage procedures.

Explanation of Process

A. **Any certified EMS and Trauma person can** identify a **major trauma patient and activate the trauma system.** This may include requesting more advanced prehospital services or aero-medical evacuation.

B. **The first step** (1) is **to assess the vital signs and level of consciousness.** The words "Altered mental status" mean anyone with an altered neurologic exam ranging from completely unconscious, to someone who responds to painful stimuli only, or a verbal response which is confused, or an abnormal motor response.

The "and/or" conditions in Step 1 mean that any one of the entities listed in Step 1 can activate the trauma system.

Also, the asterisk (*) means that if the airway is in jeopardy and the on-scene person cannot effectively manage the airway, the patient should be taken to the nearest medical facility or consider meeting up with an ALS unit. These factors are true regardless of the assessment of other vital signs and level of consciousness

C. **The second step** (2) is **to assess the anatomy of** injury. The specific injuries noted require activation of the trauma system. Even in the assessment of normal vital signs or normal levels of consciousness, the presence of any of the specific anatomical injuries does require activation of the trauma system.

Please note that steps 1 and 2 also require notifying Medical Control.

D. **The third step (3) for the prehospital provider is to assess the biomechanics of the injury and address other risk factors.** The conditions identified are reasons for the provider to contact and **consult with Medical Control** regarding the need to activate the system. They do not automatically require system activation by the prehospital provider.

Other risk factors, coupled with a "gut feeling" of severe injury, means that Medical Control should be consulted and consideration given to transporting the patient to the nearest trauma facility.

Please note that certain burn patients (in addition to those listed in Step 2) should be considered for immediate transport or referral to a burn center/unit.

Patient Care Procedures

To the right of the attached schematic you will find the words "according to DOH-approved regional patient care procedures." These procedures are developed by the regional EMS and trauma council in conjunction with local councils. They are intended to further define how the system is to operate. They identify the level of medical care personnel who participate in the system, their roles in the system, and participation of hospital facilities in the system. They also address the issue of inter-hospital transfer, by transfer agreements for identification, and transfer of critical care patients.

In summary, the Prehospital Trauma Triage Procedure and the Regional Patient Care Procedures are intended to work in a "hand in glove" fashion to effectively address EMS and Trauma patient care needs. By functioning in this manner, these two instruments can effectively reduce morbidity and mortality.

If you have any questions on the use of either instrument, you should bring them to the attention of your local or regional EMS and Trauma council or contact 1-800-458-5281.

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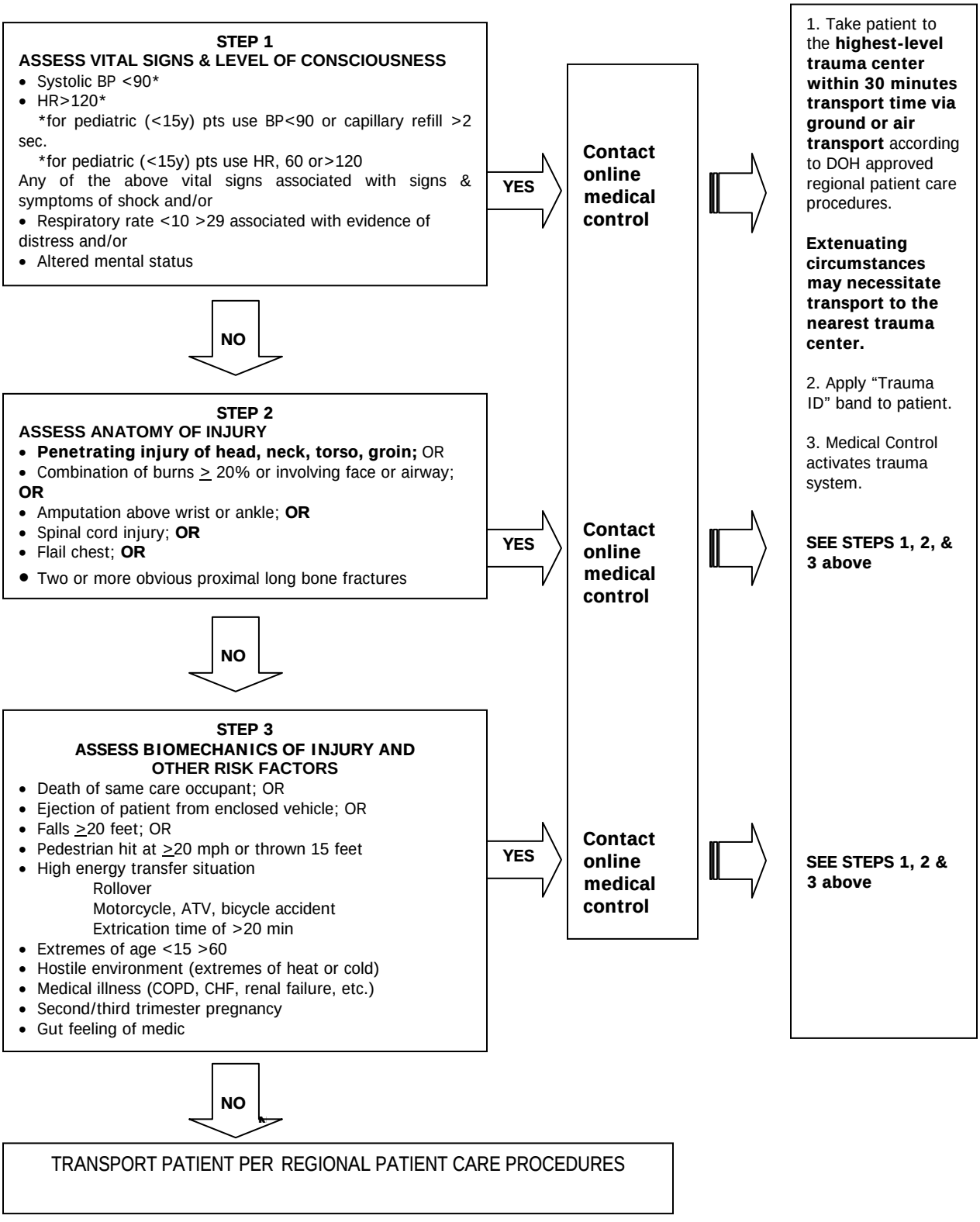
Trauma system activation is accomplished at the time of contact with Medical Control. Online medical control at the receiving trauma center will activate the trauma team upon notification of the transporting agency or dispatcher.

- Prehospital triage is based on the following 3 steps: Steps 1 and 2 require Prehospital EMS personnel to notify medical control and activate the Trauma System. Activation of the Trauma System in Step 3 is determined by medical control**



PART III

Trauma Care Facilities

Part III: Trauma Care Facilities

Central Region Trauma Care Facilities are as follows:

Level I Trauma Center (Pediatric and Adult)
- Harborview Medical Center

Level III Trauma Centers
- Auburn General Hospital
- Overlake Hospital Medical Center
- Valley Medical Center

Level IV Trauma Centers
- Evergreen Hospital Medical Center
- Highline Community Hospital
- Northwest Hospital
- St. Francis Hospital

Level V Trauma Center
- Enumclaw Community Hospital

Reference: Designated Trauma Centers in King County/Paramedic Response Area

PART IV

Interfacility Transfers

Part IV: Interfacility Transfers

Private ALS and BLS agencies provide interfacility patient transfers at the direction of the hospital initiating the transfer. All interfacility patient transfers shall be consistent with the transfer procedures in chapter 70.170 RCW and WAC 246-976-890.

Level III, Level IV, and Level V trauma centers will transfer patients to the State Level I trauma center when appropriate. The State's Level I trauma center is:

Harborview Medical Center
325 Ninth Avenue
Seattle, WA 98104

PART V

Multiple Casualty Incidents (types and expected volume of trauma)

Part V: Multiple Casualty Incidents (types and expected volume of trauma)

The Central Region has adequate resources to meet normal trauma patient volumes. The Quality Assurance Committee monitors mechanism of injury and patient volumes.

Large Multiple Casualty Incidents may require the triage of patients to non-designated King County hospitals or to trauma centers in adjacent counties.

Reference: Central Region MCI Hospital Utilization Guidelines (Trauma)

PART VI

Activation of Trauma Team

Part VI: Activation of Trauma Team

Trauma team activation is accomplished at the time of contact with Medical Control. Online medical control at the receiving trauma center will activate the trauma team upon notification of the transporting agency or dispatcher. All designated trauma centers will activate their trauma team per WAC 246-976-870.

PART VII

Medical and Minor Trauma Patients

Central Region Patient Care Procedures
Transportation Guidelines for Medical and Minor Trauma Patients

Principles

I. Prehospital care providers respect the right of the patient to choose a hospital destination and will make reasonable efforts to assure that choice is observed. Alternately and under ADAPT guidelines, BLS providers may transport or suggest transport of patients to non-hospital settings such as stand alone emergency rooms and clinics.

Factors including patient's choices may be:

1. Personal Preference
2. Personal physician's affiliation
3. HMO or preferred provider

Modifying factors which may influence the prehospital provider's response:

1. Patient unable to communicate choice
2. Unstable patient who would benefit from transportation to nearest hospital or to hospital providing specialized services.
3. Transport to patient's choice of hospital would put medic unit or aid car out of service for extended period and alternative transport is not appropriate or available.

II. Prehospital providers should transport unstable patients, i.e. compromised airway, post arrest, shock from non-traumatic causes, etc., to the nearest hospital able to accept the patient.

Reference: Hospital Resource Directory

III. Emergency patients requiring specialized care such as hyperbaric treatment, neonatal ICU, or high-risk OB care should be transported to the nearest hospital able to provide such care.

IV. When in doubt, prehospital care providers should contact online medical control.

NOTIFICATION TO PREHOSPITAL AGENCIES OF HOSPITAL DIVERSION

Appendix I - Hospital Diversion

NOTIFICATION TO PREHOSPITAL AGENCIES OF HOSPITAL DIVERSION

In order to assure accurate and current information on the diversion status of hospitals, Central Region hospitals will report any change affecting their ability to receive patients from prehospital emergency medical care providers utilizing the Washington Hospital Capacity website. Hospitals have agreed to report changes in Emergency Department and Medic One diversion status as it occurs and to update the Bed Census at least every 8 hours or once per shift. Bed census updates at the change of each shift are suggested.

> "Closed to Medic One" means that a hospital has exhausted its capacity to provide CCU or ICU care but is able to receive all other patients."
>
> "Emergency Department Closed" means that a hospital has exhausted the capacity of their emergency room to receive additional patients."
>
> A closed Emergency Department does not mean a hospital has also exhausted its CCU or ICU care capacity."

Online medical control physicians will monitor hospital diversion status for Medic One patients. BLS agencies may monitor diversion status and may confirm the status of the receiving hospital by radio or phone prior to transport. Hospitals on divert status may assist EMS agencies in determining an appropriate alternate destination utilizing the Central Region Transportation Guidelines for Medical and Non-Major Trauma Patients and the Central Region Hospital Resource Matrix.

Diversion of major trauma patients by designated trauma centers will be consistent with State-approved policies of each designated trauma center.

FOR ALL CASES WHERE IT IS KNOWN THAT THE ER WILL BE CLOSED OR CLOSED TO MEDIC ONE OR BOTH

CONDITION	CRITERIA	ACTION
YELLOW ALERT	a. single hospital within a zone (zone 1-3) or b. two hospitals within zone 5	Hospital on diver to notify other hospitals within zone Third hospital to go on divert to coordinate with other zone 5 hospitals on divert
RED ALERT	A. Closures in multiple zones or b. three hospitals within zone 5	Hospital Control coordinates with hospitals on divert to facilitate re-opening.
REGIONAL EMERGENCY	six hospitals in Seattle/King County on divert	In the face of a pending emergency such as a winter storm, the Public Health Officer may declare a Public Health Emergency at which time all hospitals will come off divert.